TO: Mathematics Department Chair, Deidre Watkins

FROM: Darryl Baynes

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RE: Integrating Physical Science into Algebra II

The mathematics curriculum for Dekalb County School District discusses student proficiencies in several aspects of mathematics. Student competency in problem-solving and their ability to make connections among mathematical ideas and other areas of knowledge are two such aspects. However, test scores show that our students are lacking in these abilities. Therefore, to increase the proficiency of our students in regards to these aspects, I propose the required collaboration between the math and science department. This collaboration would be to develop cross-curricular lessons that reinforce the content in both subjects.

Research supports the effectiveness of cross-curricular approaches to teaching. It offers students the opportunity to apply what they’ve learned to other content areas, exercising their problem-solving abilities. Further, cross-curricular lessons deepen student understanding, strengthening connections among mathematical ideas and other knowledge. This collaboration would also support the school’s mission to engage students in active learning.

This change must take place at the beginning of the school year. The two departments should meet weekly. These meetings should focus on the creating lessons, homework, and projects that incorporate material being covered in both classes. The subjects that should coordinate will be based on the pre-dominating grade level for that subject. For example, Algebra II will coordinate with Physical Science, both of which are 11th grade courses. Such a change could be difficult for several faculty members. As such, a trial group could be made in which one math class will collaborate with one science class of the same grade level. I would be willing to be part of the trial group. I am teaching Algebra II this year, and could be matched with a Physical Science teacher.